

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method of maintaining a configuration of mechanical equipment, comprising the steps of:

retrieving, by a data processor, a desired configuration of the mechanical equipment based on a design objective of the mechanical equipment, wherein the desired configuration includes configuration data on an equipment identifier, an equipment description, an assembly identifier, an assembly description, a part identifier, a part description data, an installation location data, an installation position data, a part specification data, an assembly specification data, and an equipment data, and wherein the design objective includes at least one of safety, reliability, and performance;

retrieving, by the data processor, an actual configuration of the mechanical equipment, wherein the actual configuration includes configuration data on an equipment identifier, an equipment description data, an assembly identifier, an assembly description data, a part identifier, a part description, an installed position data, an installation date, a utilization history data, a maintenance history data, a longevity information, a part specification data, an assembly specification data, and an equipment specification data;

comparing, electronically with the data processor, the desired configuration with the actual configuration to determine if the actual configuration complies with the desired configuration; and

generating, by the data processor in accordance with the comparison of the desired configuration with the actual configuration, an upgrade requirement plan for upgrading the actual configuration to the desired configuration if the actual configuration is noncompliant.

2. (Previously presented) The method according to claim 1 wherein the upgrade requirement plan includes part level data on the mechanical equipment for a given point in time within a usable life of the mechanical equipment.

3. (Previously presented) The method according to claim 2 wherein the upgrade requirements plan includes a serial number of a component of the mechanical equipment at any given point in time for a given point in time within its usable life to manage the at least one of the safety, reliability and performance.

4. (Previously presented) The method according to claim 1 wherein the generating step includes obtaining a required part for the desired configuration and scheduling human resources consistent with availability of the required part.

5. (Previously presented) The method according to claim 1 wherein the generating step includes procuring a required assembly for the desired configuration and scheduling human resources consistent with the availability of the required assembly.

6. Cancelled.

7. (Previously presented) The method according to claim 1 wherein the desired configuration is based upon monitoring operational performance of a part.

8. (Previously presented) The method according to claim 1 wherein the desired configuration is based upon monitoring operational performance of an assembly.

9. (Previously presented) The method according to claim 1 wherein the desired configuration is based upon monitoring operational performance of the mechanical equipment.

10. (Previously presented) The method according to claim 1 wherein the desired configuration is based on a substituted part with a greater longevity substituted for a part with a lesser longevity.

11. (Previously presented) The method according to claim 1 wherein the desired configuration is based on a substituted assembly with a greater longevity substituted for an assembly with a lesser longevity.

12. (Original) The method according to claim 1 further comprising updating the desired configuration based on engineering change.

13. (Original) The method according to claim 1 further comprising updating the desired configuration to facilitate compliance with a regulatory requirement.

14. (Previously presented) The method according to claim 1 wherein the generating step includes scheduling and bringing together at least two of the following items at a specific time and place: requisite parts, technical instructions, supporting equipment, acceptance criteria and procedures, tools, and repair personnel.

15. (Previously presented) The method according to claim 1 wherein the actual configuration is determined by disassembly and inspection of at least a portion of the mechanical equipment.

16. (Original) The method according to claim 1 further comprising defining a template for configuration data prior to populating an actual configuration database and a desired configuration database with the configuration data.

17. (Original) The method according to claim 1 further comprising the step of managing disposition of a removed component of the mechanical equipment.

18. (Currently amended) A system for maintaining a configuration of mechanical equipment, the system comprising:

a desired configuration database for storing a desired configuration of the mechanical equipment based on a design objective of the mechanical equipment based on a design objective of the mechanical equipment, wherein the desired configuration includes configuration data on an equipment identifier, an equipment description, an assembly identifier, an assembly description, a part identifier, a part description data, an installation location data, an installation position data, a part specification data, an assembly specification data, and an equipment data, and wherein the design objective includes at least one of safety, reliability, and performance;

an actual configuration database for storing an actual configuration of the mechanical equipment based on an evaluation of the mechanical equipment, wherein the actual configuration includes configuration data on an equipment identifier, an equipment description data, an assembly identifier, an assembly description data, a part identifier, a part description, an installed position data, an installation date, a utilization history data, a maintenance history data, a longevity information, a part specification data, an assembly specification data, and an equipment specification data;

a data processor adapted to retrieve the desired configuration from the desired configuration database and to retrieve the actual configuration from the actual configuration database, to determine if the actual configuration complies with the desired configuration, and to generate an upgrade requirement plan, in accordance with the determination, for upgrading the actual configuration to the desired configuration if the actual configuration is noncompliant.

19. Cancelled.

20. Cancelled.

21. (Original) The system according to claim 18 wherein a maintenance input/output device is arranged to update the configuration data in the actual configuration database.

22. (Original) The system according to claim 21 wherein the maintenance input/output device comprises a monitor for monitoring part longevity data of a part and for sending part longevity data for storage in the actual configuration database.

23. (Original) The system according to claim 21 wherein the maintenance input/output device comprises a monitor for monitoring assembly longevity data of an assembly and sending the assembly longevity data to the actual configuration database.

24. (Original) The system according to claim 21 wherein the maintenance input/output device comprises a monitor for monitoring operational performance of mechanical equipment.

25. (Original) The system according to claim 18 wherein an engineering input/output device is arranged to update the configuration data in the desired configuration database.

26. (Original) The system according to claim 18 wherein a supervisory input/output device is arranged to access a supervisory database for storing historic configurations and associated repair history data.

27. (Original) The system according to claim 18 wherein the data processor is adapted to schedule and bring together requisite parts, tools, and repair personnel at a specific time and place.